

Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 9 with the following amended paragraph:

DESCRIPTION OF THE RELATED ART

The risks associated with contamination caused by chemical and biological agents of various kinds are well known. Medical equipment and surgical instruments are required to be sterilised to eliminate a growing range of infectious agents including more recently prions implicated in new variant Creusfeld Jacob Disease (nvCJD). Proteins exhibit huge variation in structure. However, they are formed in similar ways and thus display certain structural elements and characteristics that are common. The primary structure of proteins is determined by the amino acid sequence and pendant side groups. The amino acid chains are then folded to form various secondary structures designated as  $\alpha$ -helices or  $\beta$ -sheets. Secondary structure is determined by the folding of the amino acid chains and interactions between the various side groups. Further associations may also form, depending on the protein's environment. For example different hydrophilic and hydrophobic groups or areas within the protein molecule are sensitive to the medium in which the molecule may be suspended. The prion protein plays an essential role in the pathogenesis of a group of sporadic, genetically determined and infectious fatal degenerative diseases, referred to as prion diseases, or transmissible encephalopathys (TSE's), affecting the central nervous system of humans and other mammals. The cellular prion protein is encoded with a single copy gene, highly conserved across mammalian species. In prion diseases this protein undergoes conformational changes involving a shift from  $\alpha$ -helices to  $\beta$ -sheet structure. The structures of the proteins, both native and rogue, have been extensively investigated. The one of most interest and immediate impact to humans is the protein associated with nvCJD. What is unusual about the protein that is associated with TSEs is the extreme robustness it exhibits. This is thought to be due its  $\beta$ -sheet-sheet structure. Prions are known to

survive temperatures in excess of 300°C. Such proteins thus represent present particular problems in terms of their transmission and destruction. The nvCJD prion is known to have a high affinity for stainless steel and other metals posing significant difficulties for the sterilisation of medical equipment, such as surgical instruments. At the same time, considering hazards unrelated to the medical field, chemical and biological agents, such as those used as weapon materials, pose significant handling and disposal risks.

Please replace the paragraph beginning at page 5, line 1 with the following amended paragraph:

#### BRIEF SUMMARY OF THE INVENTION

Accordingly, in a first aspect the present invention provides apparatus for treating hazardous material and for decontaminating items that may have come into contact with such material. In its broadest form such apparatus comprises an operator accessible treatment vessel or chamber and a light source capable of irradiating a catalyst within the treatment vessel or chamber with a predetermined wavelength.

Please replace the paragraph beginning at page 8, line 25 with the following amended paragraph:

#### BRIEF DESCRIPTION OF THE DRAWINGS

The various aspects of the invention are described in detail below with reference to the accompanying drawings in which:

Please replace the paragraph beginning at page 9, line 10 with the following amended paragraph:

DETAILED DESCRIPTION OF THE INVENTION

In the drawings similar reference numerals have been used to designate components common to each of the alternative embodiments.

PRELIMINARY AMENDMENT  
US NATIONAL PHASE OF PCT/GB2003/003431

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**In The Abstract:**

Kindly insert the Abstract which appears on a separate page.